

PATENT

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ABSTRACT OF THE DISCLOSURE

[0040] An apparatus and method of creating a seal between two coaxial tubulars so as to create a hanger and a packer. A first tubular is disposed coaxially within a portion of a second, larger tubular. A portion of the first tubular is expanded into frictional contact with the second tubular, thereby creating a liner and a hanger. In one embodiment, a pattern of grooves and profile cuts are formed in the surface of a portion of the first tubular body. The grooves in one aspect define a continuous pattern about the circumference of the tubular body which intersect to form a plurality of substantially identical shapes, such as diamonds. The grooves and profile cuts serve to improve the tensile strength of the tubular body. At the same time, the grooves and profile cuts allow for expansion of the tubular body by use of less radial force. The grooves and profile cuts further provide a gripping means, providing additional frictional support for hanging the expanded tubular onto the inner surface of a surrounding second tubular.